CLAIMS

What Is Claimed Is:

1. A device for measuring pressure, the device comprising:

a housing comprising an inlet;

a transducer coupled to the inlet in the housing to generate an electrical signal representative of pressure at the inlet;

a visual indicator coupled to the inlet in the housing to indicate pressure at the inlet; and

a data communication device coupled to the transducer in the housing to transmit a wireless signal corresponding to the electrical signal, whereby pressure information is provided both locally and remotely.

2. The device of claim 1, wherein:

the housing comprises a stem extending to the inlet;

the transducer comprises a Bourdon tube coupled to the inlet to arcuately displace in response to pressure at the inlet; and

the visual indicator comprises:

a shaft coupled to the Bourdon tube to rotate in response to displacement of the Bourdon tube, and

a pointer attached to the rotatable shaft to indicate pressure values.

3. The device of claim 2, wherein the transducer further comprises:

an inductive target coupled to the Bourdon tube, the target being movable in response to displacement of the Bourdon tube; and

an eddy current sensor positioned to sense movement of the inductive target and, in response to movement of the inductive target, to generate the electrical signal.

4. The device of claim 1, wherein the transducer comprises a piezo-type sensor coupled to the inlet to generate an electrical signal in response to pressure at the inlet.

5. The device of claim 1, wherein the visual indicator comprises a digital display.

6. The device of claim 1, wherein the data communication device comprises an infrared emitter.

7. The device of claim 1, further comprising a processor coupled between the transducer and the data communication device.

8. The device of claim 7, wherein the processor is operable to generate pressure characterization data based on the signal representing pressure at an inlet, wherein the characterization data is transmitted as part of the wireless signal.

9. The device of claim 8, wherein characterization data comprises warnings based on the pressure at the inlet.

10. The device of claim 7, wherein the processor is operable to control the frequency at which pressure information is transmitted.

11. The device of claim 10, wherein the processor is operable to control the pressure information transmission frequency based on pressure data set points, the frequency being altered in response to the pressure crossing a pressure data set point.

12. The device of claim 7, wherein the processor is operable to place itself and other electronic components into a power conservation mode.

13. The device of claim 7, wherein the processor is operable to compensate for non-linearity of the sensed pressure.

14. The device of claim 7, wherein the processor is operable to compensate for temperature coefficients.

15. The device of claim 7, further comprising an Infrared Data Association interface coupled to the processor, wherein the processor may be remotely programmed via the interface.

16. The device of claim 15, wherein the processor may be programmed to change pressure data set points.

17. The device of claim 7, further comprising externally accessible terminals coupled to the processor.

18. The device of claim 17, wherein the processor is operable to accept a discrete status input via the terminals

19. The device of claim 17, wherein the processor is operable to output pulse accumulation information via the terminals.

20. The device of claim 1, further comprising a visual indicator at the housing to indicate mode of operation.

21. The device of claim 1, further comprising a data communication device on-off switch.

22. A device for measuring pressure, the device comprising:

a housing comprising an inlet;

a transducer coupled to the inlet in the housing to generate an electrical signal representative of pressure at the inlet;

a processor coupled to the transducer in the housing, the processor operable to receive the electrical signal and to generate a signal including pressure information corresponding to the signal; and

a data communication device coupled to the processor in the housing to transmit a wireless signal representative of the processor generated signal, whereby pressure information is provided remotely.

23. The device of claim 22, further comprising a visual indicator coupled to the inlet in the housing to indicate pressure at the inlet.

24. The device of claim 22, wherein the transducer comprises:

a Bourdon tube coupled to the inlet to arcuately displace in response to pressure at the inlet;

an inductive target coupled to the Bourdon tube, the inductive target being moveable in response to displacement of the Bourdon tube; and

an eddy current sensor positioned to sense movement of the inductive target and, in response to movement of the inductive target, to generate the electrical signal.

25. The device of claim 22, wherein the processor is further operable to generate pressure characterization data based on the electrical signal, wherein the characterization data is transmitted as part of the wireless signal.

26. The device of claim 22, wherein the processor is further operable to control the frequency at which pressure information is transmitted.

27. The device of claim 22, wherein the processor is further operable to place itself and other electronic components into a power conservation mode.

28. The device of claim 22, wherein the processor is further operable to compensate for non-linearity of the sensed pressure.

29. The device of claim 22, wherein the processor is further operable to compensate for temperature coefficients.

30. The device of claim 22, further comprising an Infrared Data Access interface coupled to the processor, wherein the processor may be remotely programmed via the interface.

31. The device of claim 22, further comprising externally accessible terminals coupled to the processor.

32. A device for measuring pressure, the device comprising:

a housing comprising an inlet;

a Bourdon tube coupled to the inlet in the housing to displace in response to pressure at the inlet;

a shaft coupled to the Bourdon tube to rotate in response to displacement of the Bourdon tube;

a pointer attached to the rotatable shaft to indicate pressure at the inlet;

an inductive target coupled to the Bourdon tube to move in response to displacement of the Bourdon tube;

an eddy current sensor positioned to sense movement of the inductive target and, in response to movement of the inductive target, to generate an electrical signal

a data communication device coupled to the sensor in the housing to transmit a wireless signal corresponding to the electrical signal, whereby pressure information is provided both locally and remotely.

33. The device of claim 32, further comprising a processor coupled between the eddy current sensor and the data communication device.

34. The device of claim 33, wherein the processor is operable to generate pressure characterization data based on the electrical signal, wherein the characterization data is transmitted as part of the wireless signal.

35. The device of claim 33, wherein the processor is operable to control the frequency at which pressure information is transmitted.

36. The device of claim 35, wherein the processor is operable to control the pressure information transmission frequency based on pressure data set points, the frequency being altered in response to the pressure crossing a pressure data set point.

37. The device of claim 33, wherein the processor is operable to place itself and other electronic components into a power conservation mode.

38. The device of claim 33, wherein the processor is operable to compensate for non-linearity of the sensed pressure.

39. The device of claim 33, wherein the processor is operable to compensate for temperature coefficients.

40. The device of claim 33, further comprising an Infrared Data Access interface coupled to the processor, wherein the processor may be remotely programmed via the interface.

41. A method performed at a pressure measurement device, the method comprising:

sensing pressure at an inlet of a housing;

converting the sensed pressure to a visual indication of pressure at the housing;

converting the sensed pressure to an electrical signal at the housing; and

sending a wireless signal corresponding to the electrical signal from the housing, whereby pressure information is provided both locally and remotely.

42. The method of claim 41, wherein converting the sensed pressure to a visual indication of pressure comprises:

converting the sensed pressure to a mechanical displacement; and

translating the mechanical displacement to a pointer.

43. The method of claim 42, wherein converting the sensed pressure to an electrical signal comprises:

translating the mechanical displacement to an inductive target; and

sensing eddy currents generated in response to displacement of the target.

44. The method of claim 41, wherein sending a wireless signal comprises emitting infrared radiation pulses.

45. The method of claim 41, further comprising:

generating characterization data for the sensed pressure based on the electrical signal; and

sending the characterization data as part of the wireless signal.

46. The method of claim 41, further comprising controlling the frequency at which pressure information is sent.

47. The method of claim 41, further comprising placing electronic components into a power conservation mode.

48. The method of claim 41, further comprising:
receiving wireless signals that specify operational adjustments; and
adjusting pressure measurement device operations.

49. The method of claim 41, further comprising:
receiving externally generated data; and
sending the data as part of the wireless signal.

50. The method of claim 41, further comprising providing a visual indication of operating mode at the housing.

51. A device for measuring pressure, the device comprising:

means for sensing pressure at an inlet of a housing;

means for converting the sensed pressure to a visual indication of pressure at the housing;

means for converting the sensed pressure to an electrical signal at the housing; and

means for sending a wireless signal corresponding to the electrical signal from the housing, whereby pressure information is provided both locally and remotely.

52. The device of claim 51, wherein converting the sensed pressure to a visual indication of pressure comprises:

converting the sensed pressure to a mechanical displacement; and

translating the mechanical displacement to a pointer.

53. The device of claim 52, wherein converting the sensed pressure to an electrical signal comprises:

translating the mechanical displacement to an inductive target; and

sensing eddy currents generated in response displacement of the target.

54. The device of claim 51, wherein sending the wireless signal comprises emitting infrared radiation pulses.

55. The device of claim 51, further comprising means for generating characterization data for the sensed pressure based on the electrical signal, wherein the characterization data is sent as part of the wireless signal.

56. The device of claim 51, further comprising means for controlling the frequency at which pressure information is sent.

57. The device of claim 51, further comprising means for adjusting operations in response to received wireless signals.

58. The device of claim 51, further comprising means for receiving externally generated data, wherein the data may be sent as part of the wireless signal.

59. The device of claim 51, further comprising means for providing a visual indication of operating mode at the housing.

60. A device for measuring pressure, the device comprising:

a housing comprising a stem having an inlet;

a Bourdon tube coupled to the inlet to arcuately displace in response to pressure at the inlet;

a shaft mechanically coupled to the Bourdon tube to rotate in response to displacement of the Bourdon tube;

a pointer attached to the shaft to indicate pressure values;

an inductive target coupled to the Bourdon tube, the target being movable in response to displacement of the Bourdon tube;

an eddy current sensor positioned to sense movement of the inductive target and, in response to movement of the inductive target, to generate an electrical signal;

an analog-to-digital converter coupled to the sensor, the converter operable to receive the electrical signal and produce a digitized version of the signal;

a microprocessor coupled to the converter, the microprocessor operable to:

receive the digitized signal,

compensate for non-linearity of the sensed pressure,

compensate for temperature coefficients,

generate pressure characterization data based on the compensated signal,

determine whether the frequency at which pressure information is transmitted should be adjusted,

if the frequency should be adjusted, adjust the frequency,

determine whether it is time to transmit pressure information,

if it is time to transmit pressure information, generate a signal comprising pressure information,

place itself and other electronic components into a power conservation mode,

an Infrared Data Association interface coupled to the microprocessor, wherein the microprocessor may be remotely programmed via the interface; and

an infrared transceiver coupled to the microprocessor to transmit a wireless signal representative of the microprocessor signal, whereby pressure information is provided both locally and remotely.